

Wildlife Populations: Bald Eagle

Background

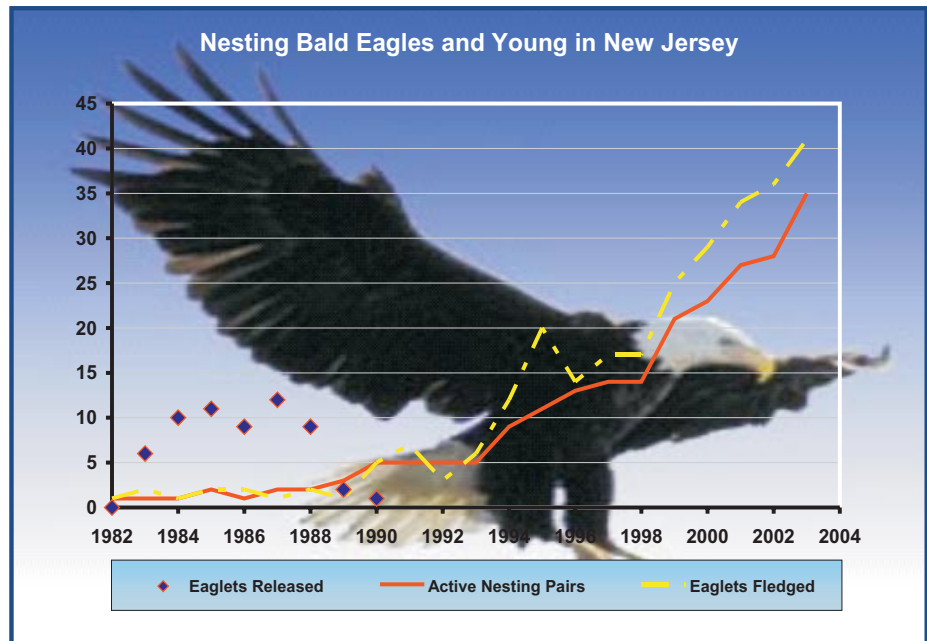
The large, majestic bald eagle was selected as the U.S. national emblem in 1782 “as a symbol of strength, courage, beauty, and freedom.”¹ During the nesting season, bald eagles are always found close to a water body where a ready supply of fish or waterfowl is available. They typically nest in old, large trees with a clear flight path on one or more sides, and often, a view of the water.² The bird’s population in the lower 48 states decreased drastically in the 1940s, 1950s and 1960s, exemplifying the dangers of environmental contamination, loss of habitat, and human persecution of wildlife, and warning scientists of a loss of biodiversity throughout the world.

A major threat to the birds’ survival was increasing contamination of the environment after World War II with persistent chemicals such as DDT and PCBs. Accumulating in fish and other prey, these endocrine system-disrupting pollutants concentrated in eagles’ eggs and impaired hatching and the survival of nestlings, primarily by weakening eggshells. Population numbers also were affected adversely by the loss of quality large-area forests and aquatic habitats. Historic records estimate more than 20 bald eagle nests in New Jersey throughout the 1940s. By the 1970s, however, the numbers had declined to a yearly average of one nest, and throughout that decade there is no record of the successful rearing of nestlings.

In 1972, DDT was banned in the United States, followed by bans of other pesticides such as aldrin, dieldrin, chlordane, toxaphene and PCBs in the late 1970s and early 1980s. Subsequently, concentrations of these pollutants in the environment began to decline. At the same time, federal and state wildlife agencies instituted programs to protect and enhance bald eagle populations. The New Jersey Department of Environmental Protection Division of Fish and Wildlife, Endangered and Nongame Species Program (ENSP) coordinated the state’s efforts to restore bald eagle populations. From 1983 through 1990, ENSP monitored the release of 60 young eaglets obtained from Canada; it also coordinated intensive management of failing nests and protection of nesting sites by biologists and landowners

Trend

The steps taken to protect the bald eagle and foster its survival are paying off. Data assembled by the ENSP show a consistent increase in the bald eagle population in New Jersey over the last 15 years. In 2003, there were 35 active nesting pairs of eagles that produced 41 young. (See Figure.)



Outlook and Implications

While the number and distribution of nests continues to increase, and the bald eagle has been upgraded from endangered to threatened status at the federal level, it is still considered an endangered species in New Jersey. It is important to note that the recent success in restoring the population of bald eagles has been due in part to active human intervention and protection. Continuation of such efforts by ENSP and others is planned, and will likely be necessary for the foreseeable future.

Eagles and other birds of prey nesting in the Delaware Bay region still exhibit some reproductive impairment, which may be due to lingering pesticide contamination in the environment.^{3,4} Such contamination probably will continue to decline, but it is necessary to document anticipated improvements by monitoring levels of banned chemicals in fledgling birds, as well as levels of other chemicals that have endocrine-disrupting effects.

Loss of habitat continues to be a problem, but disturbance by indiscreet observers may be the biggest problem currently faced by the bald eagle population in New Jersey.⁵ Some people, apparently unaware that their presence may disturb the birds, tend to encroach on nesting areas, at times upsetting and disrupting the birds' behavior to the point where reproduction is impaired.



More Information

Extensive information on the bald eagle and its status is available from ENSP. See www.nj.gov/dep/fgw/ensp/home.htm

References

- ¹ Simons, T., S. Sherrod, M. Collopy, and M. Jenkins, 1988, Restoring the Bald Eagle, *American Scientist* 76: 253-260, as referenced in Brauning, Daniel, (Ed.), 1992, *Atlas of Breeding Birds in Pennsylvania*, University of Pittsburgh Press, Pittsburgh and London.
- ² Brauning, Daniel, (Ed.), 1992, *Atlas of Breeding Birds in Pennsylvania*, University of Pittsburgh Press, Pittsburgh and London.
- ³ Clark, K. E., L. J. Niles, and W. Stansley, 1998, Environmental contaminants associated with reproductive failure in Bald Eagle (*Haliaeetus leucocephalus*) eggs in New Jersey, *Bull. Environ. Contam. Toxicol.* 61: 247-254.
- ⁴ Clark, K.E., W. Stansley, and L. J. Niles, 2001, Changes in contaminant levels in New Jersey osprey eggs and prey, 1989 to 1998, *Archives of Environ. Contam. Toxicol.* 40: 277-284.
- ⁵ Niles, L., K. Clark, and D. Ely, 1991, Status of bald eagle nesting in New Jersey, *Records of NJ Birds* 17: 2-5.